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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,321	04/25/2001	William E. Bogan	31008.P032	8787

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EXAMINER

ORTIZ RODRIGUEZ, CARLOS R

ART UNIT PAPER NUMBER

2125

2

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,321

Applicant(s)

BOGAN, WILLIAM E.

Examiner

Carlos Ortiz-Rodriguez

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 27 and 28 objected to because of the following informalities: The terms “receive”, “determine” and “generate” seems to be “receives”, “determines” and “generates” . Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chun et al. U.S Patent No. 5,892,849 in view of Lynch et al. U.S. Patent No. 5,835,693.

Regarding claims 1,3-4,7-8,10-14,16-17,20-21 and 23-26, Chun et al. discloses a method comprising:receiving a selection of a center of motion for an assembly of computer aided design (CAD) models of a mechanical design(see col 5 lines 18-25); receiving a component of the assembly associated with the selected center of motion; receiving a selection of an origin for a grid pattern(see col 6 lines 4-10);automatically generating the grid pattern based upon the determined range of motion; and automatically displaying the grid pattern at the selected origin; and receiving

information of moving the grid pattern to a new location and adjusting the grid to ensure the range of motion is within the limits of the grid(see col 1 lines 19-30 and col 6 lines 16-41).

But, Chun et al. fails to clearly and specifically disclose receiving a selection of a component of the assembly associated with the selected center of motion.

However Lynch et al. discloses a selection of components (see fig 3.1 and fig 6.2).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Chun et al. and combining it with the invention disclosed by Lynch et al. The results of this combination would lead to method and apparatus for graphing motion of computer aided design (CAD) geometry.

One of ordinary skill in the art would have been motivated to do this combination in because in is known in the art that in order to obtain a simulation that approaches reality it is necessary to consider as many components of the object or device being simulated. It will help predict how a given system will perform.

Regarding claims 2 and 15, Chun et al. in combination with Lynch et al. disclose all the limitation based on claim 1. Chun et al. further discloses a method comprising: determining if the range of motion associated with the component has been modified; and adjusting the grid pattern to ensure that the displayed range of motion of the component is within limits of the grid pattern (see col 19 lines 29-35).

Regarding claims 5 and 18, Chun et al. in combination with Lynch et al. disclose all the limitation based on claim 1. Lynch et al. further discloses geometric information (see fig 5.10).

Regarding claims 6 and 19, Chun et al. in combination with Lynch et al. disclose all the limitation based on claim 1. Lynch et al. further discloses pre-stored constraints(see abstract line 7 and fig 4.4)

Regarding claims 9 and 22, Chun et al. in combination with Lynch et al. disclose all the limitation based on claim 1. Lynch et al. further discloses a scale (see col 54 line 30).

Regarding claims 27 and 28, Chun et al. discloses an apparatus comprising:a machine having instructions encoded therein, said instructions, which when executed by a machine, receive a selection of a center of motion for an assembly of computer aided design (CAD) models of a mechanical design(see col 5 lines 18-25), receive a selection of a component of the assembly associated with the selected center of motion, determine a range of motion for the component, receive a selection of an origin for a grid pattern(see col 6 lines 4-10), automatically generate the grid pattern based upon the determined range of motion, and automatically display the grid pattern at the selected origin; (see col 1 lines 19-30 and col 6 lines 16-41).

But, Chun et al. fails to clearly disclose a machine accessible medium having instructions encoded therein and a processor to execute instructions.

However, Lynch et al. discloses machine accessible medium having instructions encoded therein and a processor to execute instructions (see col 5 lines 51-61).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Chun et al. and combining it with the invention disclosed by Lynch et al.

Art Unit: 2125

One of ordinary skill in the art would have been motivated to do this combination in because in is known in the art that simulations represent a computer program running and stored on a computer. These simulations usually represent the movement of multi-body systems.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to method and apparatus for graphing motion of computer aided design (CAD) geometry:

- a. U.S. Pat. No. 5,903,670 to Chun et al., which discloses grid moving apparatus for minimizing image information of an object .
- b. U.S. Pat. No. 5,917,949 to Chun et al., which discloses compaction/motion estimation apparatus using a grid moving method for minimizing image information of an object.
- c. U.S. Pat. No. 5,971,583 to Ohnishi et al., which discloses method and apparatus for defining surfaces of three-dimensional object from three-dimensional wire-frame model.
- d. U.S. Pat. No. 6,219,049 to Zuffante et al., which discloses mate inferencing.
- e. U.S. Pat. No. 6,556,783 to Gelphman, which discloses method and apparatus for three dimensional modeling of an object.

The following publications are cited to further show the state of the art with respect to method and apparatus for graphing motion of computer aided design (CAD) geometry:

- f. U.S. Pub. No. 2002/0036617 to PRYOR, which discloses novel man machine interfaces and applications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is (703) 305-8009. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6606.


Art Unit: 2125

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Carlos Ortiz-Rodriguez

Patent Examiner

Art Unit 2125


Jayprakash N. Gandhi
Primary Examiner
Technology Center 2800 2100

cror

May 19, 2003